

REMARKS

In the Office Action mailed April 6, 2004, the examiner rejected applicants' claims 34-51, 53-54, 56-59, 82, 84, 86-88 and 90-94 for alleged obviousness in view of asserted combinations of cited prior art references. In particular, claims 34-51, 53-54, 56-59, 82 and 84 were rejected under 35 USC 103 in view of the cited Chang (U.S. Patent 5,342,054), Sullivan (U.S. Patent 4,158,853) and Balmat (U.S. Patent 5,713,799) reference patents. Claims 86-88 and 90-94 were rejected under 35 USC 103 in view of the above-noted Sullivan '853 and Balmat reference patents. Claims 1-28, 33, 60-62, 64-65, 67-73, 77-81, 83 and 85 were allowed.

In the Office Action, the examiner (Examiner White) suggested revision to independent claims 34 and 86, specifically "replace the feature of 'orientation and/or curvature of said stripe' with just – *curvature of said stripe* – to better distinguish over the art of record" (Office Action, p. 4, lines 7-9).

In response, and pursuant to a personal interview between the examiner currently in charge of this application (Mr. Mosser) and applicants' representative (Mr. Richard Apley) on May 26, 2004, applicants' have now amended independent claims 34 and 86 to implement the examiner's above-quoted suggested revision. It is applicants' understanding that independent claims 34 and 86 together with their respective groups of dependent claims now overcome the obviousness rejections as stated in the Office Action.

Applicants have also added new claims 95 and 96 to this application, wherein these new claims depend respectively from parent independent claims 34 and 86. These new dependent claims are believed to be fully consistent with, and in full compliance with the examiner's suggested revision to parent claims 34 and 86.

In addition, by this Response, applicants have implemented a number of minor editorial corrections to the Specification and drawings of this application, for purposes of correcting a number of minor typographical errors and further for bringing the formal drawings into full conformance with the as-filed Specification.

With these revisions, applicants respectfully submit that this application is now in condition for formal allowance, particularly for the reasons noted in the following remarks.

Discussion of Personal Interview

Applicants express appreciation to Examiner Mosser and Primary Examiner Hotaling for meeting with applicants' representative (Mr. Richard Apley) for the personal interview on May 26, 2004.

During that interview, the suggested revision (as proposed in the Office Action, at p. 4, by prior Examiner White) to independent claims 34 and 86 was discussed vis-a-vis the cited prior art references (Chang, Sullivan '853, and Balmat) relied upon to reject those claims. Specifically, Examiner White stated: "The examiner suggests that Applicant replace the feature of 'orientation and/or curvature of said stripe' with just – *curvature of said stripe* – to better distinguish the prior art of record." (Office Action, p. 4, lines 7-9).

Applicants' representative noted, particularly in the absence of any rejection under 35 USC 112, 2d. para., that the examiner's use of the phrase "distinguish over the prior art of record" is a customary and clear indication that the claims would be allowable if amended as suggested.

Applicants' representative further noted that the rejections of claims 34 and 86 for obviousness relied in large part upon the examiner's characterization of the Balmat reference as "an analogous golf assistance system" thus alleged to teach "the use of this type of a marking {elongated stripe}" for determining post-impact ball spin by processing post-impact images of the golf ball in flight. It was noted that the Balmat reference is in fact confined to a golf ball with alignment markings to assist the golfer in pre-impact addressing the ball with a proper ball/club head orientation, and also to assist to the golfer in pre-impact visualizing of a desired target or direction of ball travel. In this regard, applicants' representative used a conventional golf ball to demonstrate how indicia on the ball (typically the brand name or the like of the ball manufacturer) is and has been commonly used by golfers for many years to assist ball/club head address, and further to assist the golfer is proper alignment with the desired target.

Notably, this pre-impact alignment technique as explained in more detail in the Balmat reference, is not analogous to or related in any way with a camera-based system for taking post-impact images of the golf ball and then processing those post-impact images to derive information about ball velocity in three dimensions, or ball spin. It is understood that Examiners Mosser and Hotaling agreed, and thereby indicated that implementation of Examiner White's proposed revision to claims 34 and 86 would overcome the rejection of these claims for obviousness as stated in the Office Action. See form PTOL-413, dated May 26, 2004, signed by Examiners Mosser and Hotaling.

Further Discussion of the Prior Art Rejections

As noted previously herein, pursuant to the Office Action mailed April 6, 2004, claims 34-51, 53-54, 56-59, 82 and 84 were rejected for alleged obviousness in view of the cited Chang (U.S. Patent 5,342,054), Sullivan (U.S. Patent 4,158,853) and Balmat (U.S. Patent 5,713,799) reference patents, whereas claims 86-88 and 90-94 were rejected for alleged obviousness in view of the above-noted Sullivan '853 and Balmat reference patents.

At the outset, applicants note again that the Chang reference does not monitor ball spin. The examiner has agreed (Office Action, p. 3, lines 15-16), and acknowledges reliance upon the Sullivan '853 reference in combination with Balmat to support the obviousness rejection. The examiner acknowledges further that the Sullivan '853 reference does not disclose use of an elongated marking such as a stripe, and relies upon the cited Balmat reference for this feature (Office Action, p. 3, lines 17-20). According to the examiner, Balmat constitutes "an analogous golf assistance system" utilizing an "elongated stripe", and further that it would be obvious to employ Balmat's "stripe" in lieu of the "spot" utilized by the Sullivan '853 reference. See Office Action, para. bridging pp. 2-3. The examiner justifies this combination of the Sullivan '853 and Balmat references by proffering an irrelevant, unsupported, and apparently gratuitous statement that such combination would "increase the accuracy of the coordinate detection of the marking on the ball".

Applicants contend that Balmat does not disclose, suggest or remotely pertain to "an analogous golf assistance system", since Balmat has nothing

whatsoever to do with processing post-image ball images to determine ball spin and other post-impact ball flight parameters. Based on the personal interview as previously discussed herein, it is understood that the current examiner in charge of this application concurs, *i.e.*, agrees that the current rejections of independent claims 34 and 86 (and their associated groups of dependent claims) based on the asserted combination of the Sullivan '853 and Balmat references (with or without the Chang reference) are improper and should be withdrawn.

Accordingly, applicants respectfully submit that the obviousness rejections as stated in the recent Office Action are now overcome, and that this application should now proceed to formal allowance.

New Claims 95 and 96

By this Response, applicants have added new claims 95 and 96 which depend respectively from independent claims 34 and 86. Both of these new claims result as a natural consequence from implementation of the examiner's suggested revision to parent claims 34 and 86.

More particularly, by amending claims 34 and 86 to replace the phrase "orientation and/or curvature" of the associated elongated "marking" (claim 34) or "stripe" (claim 86) with the simplified language "curvature", applicants have thus deleted processor response to "orientation" from these independent claims. New claim 95 depends from parent claim 34 and recites additional processor response to "orientation" of the elongated "marking", whereas new claim 96 depends from parent claim 86 and recites additional processor response to "orientation" of the "stripe".

These new claims 95-96 are thus submitted for consideration and allowance together with their respective parent claims.

Revisions to the Specification and Drawings

Finally, by this Response, applicants note the various edits to the Specification for the purpose of correcting several minor typographical errors. Each of these corrections is believed to be self-explanatory, and does not raise any issues of new matter.

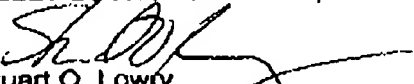
Applicants have further edited Figs. 1c and 2 of the drawings to incorporate reference numerals appearing in the as-filed Specification. Specifically, in Fig. 1c, the drawing has been edited to include a depiction of the "sensor 13" together with this reference numeral and related lead line, consistent with the Specification, para. bridging pp. 17-18. In Fig. 2, reference numerals "40" and "42" together with associated lead lines have been added, consistent with the Specification at p. 20, lines 4-5. Each of these edits thus conforms the drawings to the as-filed Specification, and also conforms the formal drawings with the informal drawings filed originally in this application. No issues of new matter are raised.

Conclusion

In conclusion, in view of the foregoing discussion and related revisions to this application, claims 1-28, 34-51, 53-54, 56-59, 60-62, 64-65, 67-73, 77-88 and 90-96 are believed to be in proper condition for allowance. A formal Notice of Allowance is believed to be in order, and is therefore respectfully requested.

Respectfully submitted,

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